Amendments to the Claims:

As indicated by the examiner in his restriction requirement, claims 4-7, 9, 14-16, 24-31, 33-34 and 46-55 are pending in this application. The following listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

4. (previously presented) The LED of claim 14, wherein said active region comprises multiple quantum wells or single quantum wells.

5. (previously presented) The LED of claim 14, wherein said substrate comprises a material from the group consisting of sapphire, spinel, silicon carbide, gallium nitride, quartz YAGI, garnet, lithium gallate, lithium niobate, zinc oxide, and oxide single crystal.

6. (previously presented) The LED of claim 14, wherein said substrate is doped with a plurality of rare earth or transition elements.

7. (previously presented) The LED of claim 14, wherein said substrate is doped with a plurality of impurities from the group consisting of chromium, titanium, iron, erbium, neodymium, praseodymium, europium, thulium, ytterbium and cerium.

9. (previously presented) A light emitting diode (LED), comprising:

an active layer;

a pair of oppositely doped layers on opposite sides of said active layer which cause said active layer to emit omnidirectional light at a predetermined wavelength in response to an electrical bias across said doped layers; and

a doped substrate, said active and doped layers disposed successively on said substrate such that said substrate absorbs at least some of said light from said active layer and re-emits omnidirectional light at a different wavelength, said LED emitting a combination of light from said substrate and said active layer, wherein said active layer emits yellow light and said substrate comprises sapphire doped with chromium, said substrate absorbing some of said yellow light and re-emitting red light.

14. (currently amended) A light emitting diode (LED), comprising:

an active region;

a pair of oppositely doped layers on opposite sides of said active layer which cause said active region to emit light at a predetermined wavelength in response to an electrical bias across said doped layers; and

a doped substrate, said active region and doped layers disposed successively on said substrate such that said substrate absorbs at least some of said light from said active region, said substrate doped throughout with a plurality of impurities such that said impurities simultaneously absorb the light of said active layer and each re-emits ~~more than one~~ a respective color of light.

15. (currently amended) The light emitting device of claim ~~1~~ 14, wherein said active layer emits UV light and said substrate is doped throughout with chromium, titanium, and cobalt, said doped substrate absorbing said UV light and emitting red, green, and blue light.

16. (previously presented) A light emitting diode (LED), comprising:

an active region;

a pair of oppositely doped layers on opposite sides of said active layer which cause said active region to emit light at a predetermined wavelength in response to an electrical bias across said doped layers; and

a doped substrate, said active region and doped layers disposed successively on said substrate such that said substrate absorbs at least some of said light from said active region, said substrate doped with a plurality of impurities such that it absorbs the light of said active layer and re-emits more than one color of light, wherein said active region emits UV light, and said substrate is doped by a plurality of rare earth or transition elements in a plurality of separate color centers that each absorbs UV light and re-emits a different color of light, the emission of said active layer being controllable such that said active layer can emit primarily over a selected one or more of said color centers.

24. (previously presented) The LED of claim 14, wherein said doped substrate is doped using solid state diffusion, ion implantation, beam evaporation, sputtering, or laser doping.

25. (previously presented) A method for generating light from a solid state light emitting device, comprising:

providing a light emitting diode having an active layer surrounded by a pair of oppositely doped layers, all of which are disposed on a doped substrate that is doped with a plurality of impurities, each of which comprises a separate color center;

exciting an optical emission from said active layer within a first wavelength range;

selectively applying at least a portion of said optical emission to one or more of said separate impurity color centers to stimulate emission from said doped substrate within different wavelength ranges depending on said plurality of impurities color centers; and

transmitting a combination of said optical emission and substrate emission as said LED's light.

26. (previously presented) The method of claim 25, wherein said doped substrate comprises sapphire, silicon carbide, gallium nitride, quartz YAGI, garnet, lithium gallate, lithium niobate, zinc oxide, or oxide single crystal.

27. (previously presented) The method of claim 25, wherein said substrate is doped with a plurality of rare earth or transition elements.

28. (previously presented) The method of claim 25, wherein said substrate is doped with a plurality of impurities from the group consisting of chromium, titanium, iron, erbium, neodymium, praseodymium, europium, thulium,

ytterbium and cerium.

29. (previously presented) The method of claim 25, wherein said doped substrate is doped using solid state diffusion, ion implantation, beam evaporation, sputtering, or laser doping.

30. (previously presented) A nitride based light emitting diode, comprising:

a plurality of active layers each of which is capable of emitting light at a predetermined wavelength;

a means for selectively causing each of said plurality of active layers to emit light alone or in combination with others of said plurality of active layers; and

a doped substrate, said plurality of active layers arranged vertically on said substrate with a plurality of doped semiconductor layers with each of said active layers sandwiched between two doped layers, said substrate absorbing at least some of said light from at least one of said plurality of active layers and re-emitting light at a different wavelength.

31. (previously presented) The LED of claim 30, that emits a combination of light from said plurality of active layers and said substrate.

33. (previously presented) The LED of claim 30, wherein each of said plurality of active layers comprises multiple quantum wells, single quantum wells or double heterostructures.

34. (previously presented) The LED of claim 30, wherein

said substrate comprises a material from the group consisting of sapphire, spinel, silicon carbide, gallium nitride, quartz YAGI, garnet, lithium gallate, lithium niobate, zinc oxide, and oxide single crystal.

35. (previously presented) The LED of claim 30, wherein said substrate is doped with at least one rare earth or transition element.

36. (previously presented) The LED of claim 30, wherein said substrate is doped with at least one impurity from the group consisting of chromium, titanium, iron, erbium, neodymium, praseodymium, europium, thulium, ytterbium and cerium.

37. (currently amended) The LED of claim 30, wherein said means for causing each of said plurality of active layers to emit ~~omnidirectional~~ light being capable of causing different ones of the active layers to emit ~~omnidirectional~~ light such that the light emitting from said LED comprises the light emitting from at least one of said plurality of active layers or the light emitting from at least one of said plurality of active layers in combination with the light emitted from said doped substrate.

38. (previously presented) The LED of claim 30, wherein said plurality of active layers comprises three active layers emitting blue, green and UV light respectively, said substrate comprising sapphire doped with chromium which absorbs said UV light and re-emits red light, said LED emitting blue, green, UV and red light from said substrate, in a white light combination, when all said active layers

are emitting.

39. (previously presented) The LED of claim 30, wherein said plurality of active layers comprises three active layers emitting blue, green and UV light respectively, wherein each of said active layers can selectively emit light, said LED emitting primarily red, green, or blue light when one of said active layers is emitting, or said LED emitting primarily purple, aqua, yellow, or white light when more than one of said active layers is emitting.

40. (previously presented) The LED of claim 30, wherein said plurality of active layers comprises two active layers emitting blue and yellow light respectively, said substrate doped with chromium such that it absorbs at least some of said yellow light and emits red light.

41. (previously presented) A light emitting diode, comprising:

an active layer;

a pair of oppositely doped layers on opposite sides of said active layer which cause said active layer to emit light at a predetermined wavelength in response to an electrical bias across said doped layers; and

a doped substrate, said active layer and doped layers arranged in a stack on said substrate, said substrate absorbing at least some of said light from said active layer and re-emitting light at a different wavelength, said substrate doped throughout with a plurality of impurities such that said substrate absorbs the light from said active layer, and re-emits more than one color of light.

42. (currently amended) A light emitting diode, comprising:

an active layer;

a pair of oppositely doped layers on opposite sides of said active layer which cause said active layer to emit light at a predetermined wavelength in response to an electrical bias across said doped layers; and

a doped substrate, said active layer and doped layer arranged in a stack on said substrate such that said substrate absorbs at least some of said light from said active layer and re-emits light at a different wavelength, and wherein said substrate is doped throughout with chromium, titanium, and cobalt, said doped substrate absorbing said ~~UV~~ active layer light and emitting red, green, and blue light.

43. (previously presented) A light emitting diode, comprising:

an active layer;

a pair of oppositely doped layers on opposite sides of said active layer which cause said active layer to emit light at a predetermined wavelength in response to an electrical bias across said doped layers; and

a doped substrate, said active layer and doped layer arranged in a stack on said substrate such that said substrate absorbs at least some of said light from said active layer and re-emits light at a different wavelength, and wherein said substrate is doped by one or more rare earth or transition element in a plurality of separate color centers each of which absorbs UV light and re-emits a different color of light.

44. (previously presented) The LED of claim 43, further comprising a means for selectively applying a bias to a portion of said plurality of active layers above each of said plurality of color centers causing said active layer to emit light that is primarily absorbed by said color center below said selectively biased portion of said active layer and re-emitted as a different color.

46. (previously presented) The LED of claim 30, wherein said plurality of active layers emit blue light and UV light, said substrate absorbing at least some of said UV light and re-emitting red light, said LED further comprising downconverting material around the surface of said LED that absorbs some of said blue light emitting from that surface and re-emits yellow light.

47. (previously presented) The LED of claim 30, further comprising electrical circuitry integrated with said LED on a common substrate.

52. (previously presented) The LED of claim 16, further comprising a means for selectively applying a bias to a portion of said active region above each of said plurality of color centers causing said active layer to emit light that is primarily absorbed by said color center below said selectively biased portion of said active layer and re-emitted as a different color.

53. (previously presented) The LED of claim 52, wherein said oppositely doped layers comprise an n-type and a p-type layer wherein said p-type layer is the top layer of said LED and said n-type layer is between said active

region and said substrate, and wherein said means for selectively applying said bias comprises a contact to said n-type layer and a plurality of contacts to said p-type layer, each of said plurality of p-type contacts arranged over a respective one of said plurality of color centers.

54. (previously presented) The LED of claim 30, wherein said means for causing each of said plurality of active layers to emit light comprises an n-type layer and a plurality of p-type layers, said n-type layer disposed between the first of said vertically arranged active layers and said substrate, said p-type layers and successive active layers alternating on said first of said active layers, with a p-type layer being the top layer, said plurality of active layers separately emitting light by causing a bias to be applied across said n-type layer and one of said plurality of p-type layers.

55. (previously presented) The LED of claim 54, wherein said means for causing each of said plurality of active layers to emit light further comprises an n-type layer contact and a plurality of p-type layer contacts, said n-type layer contact contacting said n-type layer and each of said plurality of p-type contacts contacting a respective one of said plurality of p-type layers.